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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,090	02/27/2001	Steven A. McAlister	320038-401US	6212

7590 03/03/2003

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EXAMINER
COOLEY, CHARLES E

ART UNIT	PAPER NUMBER
1723	11

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/701,090	Applicant(s) McAlister
	Examiner Charles Cooley	Art Unit 1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 20 Dec 2002 .

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 14-23 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 14-23 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☒ The proposed drawing correction filed on 20 Dec 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

OFFICE ACTION

Priority

1. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d). All of the CERTIFIED copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

Oath/Declaration

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 C.F.R. § 1.67(a) identifying this application by its Serial Number and filing date is required. See M.P.E.P. §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Drawings

3. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 20 DEC 2002 have been approved by the Examiner.

Specification

4. The substitute abstract is acceptable.

5. The title is acceptable.

Claim Objections

6. Claims 15-23 are objected to because each of these claims depends from a canceled claim. Change in dependencies after final rejection may likely be considered a new issue since an accurate analysis of the claims under 35 U.S.C. §§§ 102, 103, and 112 is untenable with improper dependencies.

Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

9. Newly submitted claims 14-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McAlister (USP 5,462,513) in view of Clarkson (USP 3,090,591).

McAlister (USP 5,462,513) discloses the recited centrifuge substantially as claimed (Figures 2 and 12) but does not disclose the recited valve members in the passages of the flow control means. The patent to Clarkson (USP 3,090,591) discloses the recited muscle type control valve 12 (Figs. 1, 3, and 5) implemented for use in passages which carry solids which are suspended in a liquid (as in the discharge outlets of the centrifuge of McAlister). The valve members 12 include a cylindrical elastomeric valve member 20 (Fig. 1) disposed within passage 22, 74 and an annular elastomeric constrictor element 18 mounted coaxially around the cylindrical elastomeric valve member 20 as best seen in Fig. 1; the annular elastomeric constrictor element 18 having a central thickened region 42 for contacting and constricting the cylindrical elastomeric valve member 20; the passage 22 being radially constrictable and having a cross-sectional shape which is substantially circular over at least half the range of radial constriction of the passage (col. 5, lines 21-42); a valve body 12 having a passageway 57, 58 acting as a fluid supply and relief passageway which communicates with a supply of fluid (col. 4, lines 21-26); the passageway 57 extending axially within the valve body (Fig. 1); the annular elastomeric constrictor element 18 being held in a chamber (within 34). It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have substituted the control valves in McAlister

(USP 5,462,513) with control valves of the type disclosed by Clarkson (USP 3,090,591) for the purposes of providing an unobstructed circular inlet port the diameter of which may be selectively varied to control flow between full flow and shut off while maintaining the port circular over the major portion of the control range to prevent turbulence and head losses (Col. 1, lines 9-45 and col. 2, line 53 through col. 3, line 5); to enable wear portions of the control valve to be inexpensively produced and readily removed and replaced when worn (col. 2, lines 56-59); and to shield all metal parts of the control valve from corrosible materials passing therethrough (col. 2, lines 60-62).

With regard to claims 18-19, the patent to Clarkson (USP 3,090,591) clearly suggests that said control valve can be adapted for passages of varying diameter (col. 6, lines 17-30). In view of this suggestion, it would have been an obvious matter of design choice to have altered the size of the control valves to any desired size, including the sizes recited in claims 18-19, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Accordingly, one skilled in the art would have found it prima facie obvious to have adapted the control valves of Clarkson (USP 3,090,591) to the size of the outlet passages in the centrifuge of McAlister (USP 5,462,513).

10. Newly submitted claims 14-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Knelson (USP 5,338,284) in view of Clarkson (USP 3,090,591).

Knelson (USP 5,338,284) discloses the recited centrifuge substantially as claimed (Figures 1-3) but does not disclose the recited valve members in the passages of the flow control means. The patent to Clarkson (USP 3,090,591) discloses the recited muscle type control valve 12 (Figs. 1, 3, and 5) implemented for use in passages which carry solids which are suspended in a liquid (as in the discharge outlets of the centrifuge of Knelson). The valve members 12 include a cylindrical elastomeric valve member 20 (Fig. 1) disposed within passage 22, 74 and an annular elastomeric constrictor element 18 mounted coaxially around the cylindrical elastomeric valve member 20 as best seen in Fig. 1; the annular elastomeric constrictor element 18 having a central thickened region 42 for contacting and constricting the cylindrical elastomeric valve member 20; the passage 22 being radially constrictable and having a cross-sectional shape which is substantially circular over at least half the range of radial constriction of the passage (col. 5, lines 21-42); a valve body 12 having a passageway 57, 58 acting as a fluid supply and relief passageway which communicates with a supply of fluid (col. 4, lines 21-26); the passageway 57 extending axially within the valve body (Fig. 1); the annular elastomeric constrictor element 18 being held in a chamber (within 34). It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have substituted the control valves in Knelson (USP 5,338,284) with control valves of the type disclosed by Clarkson (USP 3,090,591) for the purposes of providing an unobstructed circular inlet port the diameter of which may be selectively varied to control flow between full flow and shut off while maintaining

the port circular over the major portion of the control range to prevent turbulence and head losses (Col. 1, lines 9-45 and col. 2, line 53 through col. 3, line 5); to enable wear portions of the control valve to be inexpensively produced and readily removed and replaced when worn (col. 2, lines 56-59); and to shield all metal parts of the control valve from corrosible materials passing therethrough (col. 2, lines 60-62).

With regard to claims 18-19, the patent to Clarkson (USP 3,090,591) clearly suggests that said control valve can be adapted for passages of varying diameter (col. 6, lines 17-30). In view of this suggestion, it would have been an obvious matter of design choice to have altered the size of the control valves to any desired size, including the sizes recited in claims 18-19, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Accordingly, one skilled in the art would have found it prima facie obvious to have adapted the control valves of Clarkson (USP 3,090,591) to the size of the outlet passages in the centrifuge of Knelson (USP 5,338,284).

Response to Amendment

11. Applicant's arguments filed 20 DEC 2002 have been fully considered but they are not deemed to be persuasive.

To have substituted the outlet control valves in the centrifuges of McAlister (USP 5,462,513) or Knelson (USP 5,338,284) with control valves of the type disclosed by

Clarkson (USP 3,090,591) for the purposes of providing an unobstructed circular inlet port the diameter of which may be selectively varied to control flow between full flow and shut off while maintaining the port circular over the major portion of the control range to prevent turbulence and head losses; to enable wear portions of the control valve to be inexpensively produced and readily removed and replaced when worn; and to shield all metal parts of the control valve from corrosible materials passing therethrough is considered prima facie obvious to one skilled in the art.

In response to Applicant's apparent argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). As evidenced by the disclosure of Clarkson (USP 3,090,591), the use of a radially constrictable control valve in an environment where solids are suspended in a liquid (as is the case in the outlet passages of the centrifuges of McAlister (USP 5,462,513) or Knelson (USP 5,338,284)) is clearly knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure.

Applicant argues that "[e]xtreme centrifugal forces are present in the environment of centrifugal concentrators which cause difficulties for elastomeric valves." This is a peculiar conclusion as Applicant employs elastomeric valves of the type shown by Clarkson and as claimed in such an environment. If applying this conclusion to the instant invention and without exemplary exceptions (which are not provided by Applicant), one would assume that the elastomeric valves of the present invention have difficulty operating. The instant specification even admits that the valves used in the invention are modified versions of the type manufactured by The Clarkson Company. Nonetheless, Applicant fails to establish what magnitude of forces are considered "extreme forces" and provides no probative evidence to support such a conclusion. Applicant's position on this point is considered to be speculative attorney's argument unsupported by objective technical evidence on the issue. Arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Pearson*, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

With respect to Applicant's arguments that the secondary reference to Clarkson cannot be bodily incorporated into the primary references of McAlister or Knelson, the test for obviousness is not whether the features of the reference may be *bodily incorporated* into the other to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art. *In re Bozek*, 163 USPQ 545

(CCPA 1969); *In re Richman*, 165 USPQ 509 (CCPA 1970); *In re Beckum*, 169 USPQ 47 (CCPA 1971); *In re Sneed*, 218 USPQ 385. The suggestion to modify the art to produce the claimed invention need not be expressly stated in one or all of the references used to show obviousness and instead may be an implied suggestion. *Cable Electric Products., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985); *In re Sernaker*, 217 USPQ 1 (Fed. Cir. 1983); *In re Nilssen*, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988). It is not necessary that the references actually suggest, expressly or in so many words, the changes or improvements that applicant has made. Rather, the test for combining references is what the combined teachings of the references as a whole would have suggested to those of ordinary skill in the art. *In re Sheckler*, 168 USPQ 716 (CCPA 1971); *In re McLaughlin*, 170 USPQ 209 (CCPA 1971); *In re Young*, 159 USPQ 725 (CCPA 1968); *Cable Elec.*, 226 USPQ at 886-87. The motivation to combine can arise from the knowledge that the prior art elements will perform their expected functions to achieve their expected results when combined for their common known purpose. *Miles Lab., Inc. v. Shandon Inc.*, 27 USPQ2d 1123, 1128 (Fed. Cir. 1993). In the instant application, the secondary reference to Clarkson makes obvious or suggests to one of ordinary skill in the art the provision of providing radially constrictable control valves in a passageway through which solids suspended in a liquid are flowing (as would be found in the centrifugal concentrator art).

While there must be some suggestion or motivation for one of ordinary skill in the art to combine the teachings of references, it is not necessary that such be found within the four corners of the references themselves; a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any hint or suggestion in a particular reference. *In re Bosek*, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969). Further, in an obviousness assessment, skill is presumed on the part of the artisan, rather than the lack thereof. *In re Sovish*, 769 F.2d 738, 226 USPQ 771 (Fed. Cir. 1985).

With respect to the applied references, the examiner has considered all of the disclosure of each reference for what it would have fairly taught one of ordinary skill in the art. *In re Boe*, 355 F.2d 961, 148 USPQ 507 (CCPA 1966). Additionally, the specific teachings of each reference and the inferences which one skilled in the art would have reasonably been expected to draw from the disclosure has been taken into account. *In re Preda*, 401 F.2d 825, 159 USPQ (CCPA 1968). On the basis of the knowledge and level of skill in the art at the time of applicant's invention, as reflected by the applied references, the examiner concludes that the rejections under 35 USC 103 are well founded.

Applying the test for obviousness set forth in *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981), which is what the combined teachings of the references would have suggested to those of ordinary skill in the art, the examiner concludes that one having ordinary skill in the art would have found it prima facie obvious to have

substituted the control valves in the centrifuges of McAlister or Knelson with radially constrictable elastomeric control valves in view of the teachings of Clarkson.

With respect to the argument that the prior art must contain something to suggest the desirability of the combination, it is noted that to justify combining reference teachings in support of a rejection under 35 USC 103, it is not necessary that a device shown in one reference be capable of being physically inserted into the device shown in the other or that the prior art suggest expressly the changes or possible improvements the applicant has made. It is only necessary that knowledge clearly present in the prior art was applied. *In re Keller,* supra; *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983). The examiner has applied only knowledge clearly present in the prior art as evidenced by the patent to Clarkson in the rejections of the pending claims and the rejections are thus proper.

Since the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been prima facie obvious at the time the invention was made, to a person having ordinary skill in the art, from the combined teachings of the references, the rejections under 35 USC 103(a) are considered proper.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION. **ANY RESPONSE FILED AFTER THE MAILING DATE OF THIS FINAL REJECTION WILL BE SUBJECT TO THE PROVISIONS OF MPEP 714.12 AND 714.13.**

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Charles Cooley whose telephone number is ☎ (703) 308-0112.

14. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is ☎ (703) 308-0651.

Dated: **24 February 2003**

Charles Cooley
Primary Examiner
Art Unit 1723

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